

TWO-WAY TABLES - PRACTICE QUESTIONS



1.

There are 85 members at a tennis club.

51 of the members are male.

66 of the members are right-handed.

5 female members are left-handed.

Use the information to complete the two-way table below.

	Right-handed	Left-handed	Total
Male	37	14	51
Female	29	5	34
Total	66	19	85

2.

The two-way table below summarises how some the students at a school travel to school.

Complete the two-way table and work out how many students go to the school in total.

	Walk	Bus	Other	Total
Boys	52	37	31	120
Girls	44	17	29	90
Total	96	54	60	210

3.

There are 105 cars in a car park.

Two fifths of the cars are red.

80% of the cars are not convertibles.

There are 13 red convertibles in the car park.

Use the information to complete the two-way table below.

	Convertibles	Not convertibles	Total
Red	13	29	42
Not red	8	55	63
Total	21	84	105

$$\frac{2}{5} \text{ of } 105 = 42$$

$$80\% \text{ of } 105 = 84$$

4.

100 students at a school were asked whether they liked Physics, Chemistry or Biology best.

31 boys liked Physics best.

29 girls liked Biology best.

28 students liked Chemistry best.

$\frac{3}{5}$ of the students were boys.

19 boys liked Chemistry best.

(a) Use the information to complete the two-way table below.

	Biology	Chemistry	Physics	Total
Boys	10	19	31	60
Girls	29	9	2	40
Total	39	28	33	100

$$\frac{3}{5} \text{ of } 100 = 60$$

(b) Which subject is the most popular overall?

Biology

(c) Which subject is the most popular amongst the boys?

Physics

(d) Which subject is the most popular amongst the girls?

Biology

5.

A bookshop sells hard-back and paper-back books.

The books are either new or used.

The shop has 216 books in total, 156 hard-back books and 103 used books.

A quarter of the paper-back books are new.

Use the information to complete the two-way table below.

	Hardbacks	Paperbacks	Total
Used	58	45	103
New	98	15	113
Total	156	60	216

$$\frac{1}{4} \text{ of } 60 = 15$$

6.

At lunchtime, students can choose from apple juice or orange juice, and can have either pizza, noodles or pasta.

76 students chose pizza and 45 students chose pasta.

150 students chose orange juice.

A third of the 75 students who chose apple juice chose noodles.

Nobody chose apple juice and pasta.

Use the information to complete the two-way table below.

	Pizza	Noodles	Pasta	Total
Apple Juice	50	25	0	75
Orange Juice	26	79	45	150
Total	76	104	45	225

$$\frac{1}{3} \text{ of } 75 = 25$$

7.

A group of people were surveyed and asked whether they preferred dogs or cats and whether they preferred tea or coffee.

27 people preferred cats and coffee.

55 people preferred dogs and tea.

101 people preferred dogs.

82 people preferred tea.

How many people were surveyed?

	tea	coffee	total
cats	27	27	54
dogs	55	46	101
total	82	73	155

155 people were surveyed.

8.

A shop sells t-shirts and polo shirts in two colours – black and white.

The shop has 45 t-shirts and 32 polo shirts in stock.

$\frac{5}{7}$ of the items in stock are white.

25% of the polo shirts are black.

How many white t-shirts are in stock?

	black	white	total
t-shirts	14	31	45
polo	8	24	32
total	22	55	77

$$\frac{5}{7} \text{ of } 77 = 55$$

$$25\% \text{ of } 32 = 8$$

9.

A football team played 64 games last season.

The games were either league or cup games, and were either lost, won or drawn.

The team played 24 cup games, of which they lost 5 and drew 6.

The team won 35 games in total.

The team lost 4 more games than they drew in the league.

	win	draw	loss	total
league	22	7	11	40
cup	13	6	5	24
total	35	13	16	64

(a) How many games did the team lose last season?

16

(b) Was the team's win percentage higher in the league or in the cup?

$$\text{League} = \frac{22}{40} \times 100 = 55\%$$

$$\text{Cup} = \frac{13}{24} \times 100 = 54.2\%$$

It was higher in the League.

10.

A group of people, consisting of children and adults, were asked whether they preferred desserts or savouries.

24 of the children and 20% of the adults said they preferred desserts.

Overall, 36 people said they preferred savouries.

Only a quarter of the people who said they preferred desserts were adults.

Use the information to complete the two-way table below.

	Children	Adults	Total
Desserts	24	8	32
Savouries	4	32	36
Total	28	40	68

$$\frac{1}{4} \text{ of desserts} = \text{adults}$$

$$20\% \text{ of adults} = 8$$

$$\frac{3}{4} \text{ of desserts} = \text{children}$$

$$8 \div 20\% = 40$$

$$24 \div \frac{3}{4} = 32$$

11.

Students in Year 7 play either football or rugby.

They also study either French or Spanish.

60 of the students play rugby.

15% of the students play rugby and study Spanish.

$\frac{4}{7}$ of the students play football.

Half of the students who play football study French.

Use the information to complete the two-way table below.

	Football	Rugby	Total
French	40	39	79
Spanish	40	21	61
Total	80	60	140

$$\frac{4}{7} = \text{Football}$$

$$15\% \text{ of } 140 = 21$$

$$\frac{3}{7} = \text{rugby}$$

$$60 \div \frac{3}{7} = 140$$

12.

There are 60 people in a group.

A quarter of the people have brown hair.

$\frac{5}{12}$ of the people have brown eyes.

32 of the people do not have brown hair or brown eyes.

(a) If a member of the group is chosen at random, what would be the probability that they have brown eyes and brown hair? Give your answer in its simplest terms.

	Brown eyes	not brown	total
Brown hair	12	3	15
Not brown	13	32	45
total	25	35	60

$$\frac{5}{12} \text{ of } 60 = 25$$

$$\frac{1}{4} \text{ of } 60 = 15$$

$$\frac{12}{60} = \frac{1}{5}$$

(b) If a member of the group is chosen at random, what would be the probability that they have brown hair but not brown eyes? Give your answer in its simplest terms.

$$\frac{3}{60} = \frac{1}{20}$$